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Central, Western, and South Pacific Fisheries Development Program Report for Calendar Year 1977

Washington, D.C.
April 1978

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

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U.S. DEPARTMENT OF COMMERCE
Juanita M. Kreps, Secretary
National Oceanic and Atmospheric Administration
Richard A. Frank, Administrator
National Marine Fisheries Service
Terry L. Leitzell, Acting Assistant Administrator for Fisheries

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

MAR 29 1978

Sirs:

I have the honor to send you the "Central, Western, and South Pacific Fisheries Development Program Report for Calendar Year 1977." This complies with Section 4 of the Central, Western, and South Pacific Fisheries Development Act (Public Law 92-444, September 29, 1972) as amended by Public Law 94-343 (July 6, 1976). The program, as authorized by the Act, seeks to develop tuna and other latent fisheries resources in the area specified in the Act. The Pacific Islands Development Commission (PIDC) and the tuna industry, as partners, established the Pacific Tuna Development Foundation (PTDF) with joint government and industry/PIDC funding to carry out the work authorized by the Act.

The work sponsored by the PTDF includes stock assessment of and exploration for tuna and other fish, improvement of harvesting techniques, gear development, biological resource monitoring, and economic evaluation of the potential for tuna and other fisheries in the area under study.

The report provides information on the background and 1977 activities and accomplishments of PTDF.

Sincerely,

Juanita M. Kreps

Enclosure

The President
President of the Senate
Speaker of the House of Representatives

CENTRAL, WESTERN, AND SOUTH PACIFIC FISHERIES DEVELOPMENT PROGRAM
REPORT FOR CALENDAR YEAR 1977

INTRODUCTION

A program for developing the tuna and other latent fisheries resources of the Central, Western, and South Pacific Ocean originally was authorized for a 3-year period by Public Law 92-444, September 29, 1972, (16 U.S.C. 758a note). The authorization was extended for another 3 years on July 6, 1976 by Public Law 94-343. This is the second annual report on activities and accomplishments of the program required by the amended Act.

BACKGROUND

The Pacific Tuna Development Foundation (PTDF), a nonprofit corporation, was set up to develop fishery resources in the Central, Western, and South Pacific Ocean. The Foundation comprises a 10-man board of directors representing all the government and tuna industry entities that have an interest in developing Pacific tuna fisheries. This board supervises the conduct of the assigned projects carried on by a professional program manager, now the California-based consulting firm Living Marine Resources, Inc.

The primary goal of the program is the use of tuna resources in a manner beneficial to both the U.S. tuna industry and the Pacific Island areas. The U.S. tuna industry is concerned primarily with obtaining a continuing source of raw material. The prime concern of the island areas, on the other hand, is to improve their economic position by developing local fishing industries. Although the incentive for developing the tuna resources is different for the two groups, their interests converge on locating and catching tuna schools. Thus their interests are served best through a joint program of research and development.

As in the previous year, financial support for the 1977 program was provided by Saltonstall-Kennedy reserves, matching funds from industry and Pacific Islands Development Commission (PIDC), and carryover from 1976. Respectively, the amounts available were $1 million, $190,000 and $53,000, for a total of $1.24 million.

ACTIVITIES AND ACCOMPLISHMENTS

PTDF activities for 1977 began at the annual board of directors meeting held at Agana, Guam, on February 1 - 2, 1977. At that time, a revised 3-year program planning document was presented that called for spending $1.2 million during 1977 for nine projects and costs of management and staff. The projects were designed to meet the stated goals established by PTDF: (1) To locate fishable concentrations in a defined study area; (2) to develop purse-seine gear that will catch tunas under the unusual circumstances found in the study area; (3) to develop systems to provide adequate

quantities of live bait for an area that has no natural stocks; and (4) to investigate the possibility of introducing trolling gear into the island areas.

Because many of the 1977 projects are ongoing currently and will extend beyond the end of this calendar year, only an interim progress report is submitted.

1. Albacore Trolling West of Midway Island

This project was a continuation of the 1976 project carried on jointly by PTDF and the American Fishermen's Research Foundation (AFRF), an industry-funded albacore research group. As in 1976, each of the organizations chartered a U.S. west coast trolling vessel whose primary objective was to survey and evaluate the possibility of fishing for albacore in the Central Pacific Ocean west of Midway Island. The specific survey area was chosen by evaluating available data on the Japanese live bait fishery in recent years and by using the experience AFRF gained in that area during the past 2 years.

The vessels sailed from San Diego on April 4, and, after a refueling and public relations stop in Honolulu, arrived at Midway Island on April 30. After refueling and reprovisioning there, they proceeded westward toward the Emperor Seamounts. Only a few albacore were caught in the Seamount area, so the two vessels continued westward to 155° longitude. There they encountered a large segment of the Japanese live-bait fleet, which also was experiencing relatively poor fishing. However, one vessel had a breakdown, and the other vessel towed it 800 miles back to Midway.

In late July, the two vessels found a good area of large albacore east of the Emperor Seamounts and farther to the north than they had fished previously. Both vessels found fishing excellent, and they were fully loaded at the end of 12 days. Actually, they ran through fish for several hours after leaving the area.

Upon the vessel's arrival in Honolulu to unload, one of the skippers commented that he had "never experienced such a productive and fertile ground for fish and bait." The two boats landed about 90 tons of albacore. Both skippers felt that the area has a real potential for a productive fishery and that, by using Midway Island as a base, the U.S. fishing fleet might one day fish these grounds more effectively. They urged continued support for this project in the future so that its potential may be delineated and understood better.

PTDF budgeted $60,000 for this project, all of which was used to charter and supply one of the two participating vessels. AFRF provided an equal amount.

2. Truk Trolling Project

The District of Truk, within the vast area of the Trust Territory of

Pacific Islands, recognized a need to expand fishing potential by developing tuna fishing and processing. Available data suggested that an upgrading of existing trolling methods might increase catch rates substantially. An increase in the supply of raw material would likely lead to better processing facilities and might even provide the capacity for potential exports in the future.

Those close to the fishery in Truk felt it worthwhile to experiment with a larger vessel, equipped with mechanical pullers capable of trolling more lines, and space to handle and stow fish properly. However, they needed help to obtain a suitable vessel and instructions in U.S. west coast fishing techniques. With a $45,000 appropriation for the purchase of a vessel, the Truk government enlisted the aid of PTDF to oversee the purchase and provide the services of an expert U.S. west coast troller operator for 6 months.

On July 1, a 31-foot fiberglass vessel was delivered to Truk. The expert fisherman was on hand to receive and prepare it for fishing. Shortly thereafter fishing began and has been nearly continuous since that time. During the first half of this experiment, the vessel caught about 6 tons of fish -- primarily skipjack, yellowfin tuna, and rainbow runner. Although this total catch is not great by mainland standards, it is relatively good for the area, particularly under research conditions. It is anticipated that fishing will improve as the local fishermen become better acquainted with conditions on the offshore fishing grounds and the modern trolling equipment.

PTDF budgeted $32,600 for this project to finance the services of an expert fisherman. This is in addition to the vessel and support provided by the Truk government. The project is ongoing, hence incomplete at this time. It is presumed, however, that the project will be satisfactorily completed and the PTDF obligation fully expended.

3. Purse Seining in the Western Pacific

As in the past, the greatest financial emphasis was placed on the purse-seining project. For the work in 1977, PTDF planned to charter a single large seiner to operate for a longer period instead of several vessels for a short period. Also, PTDF decided to provide the vessel with a specially designed and fabricated net patterned after those used successfully in the area by Japanese purse seiners.

By mutual agreement, the chartered seiner departed Los Angeles Harbor a full month ahead of schedule. After a brief stop in Honolulu, the vessel headed for Guam to pick up the new net and reprovision. Both the net and the vessel arrived in Guam at about the same time. After a few days of preparation, all was in readiness to begin exploring the tuna resources of the Western Pacific for a period of 7 months.

Through October 1977, the vessel had made 49 sets, 30 of which caught a total of a little over 700 tons of tuna, mostly skipjack. The fish from this first trip was unloaded into containers and transshipped

from Guam to southern California for processing. It may be possible for the vessel to complete another equally successful trip before the calendar year ends.

The PTDF Board of Directors authorized an expenditure of $200,000 to buy a large, lightweight purse seine and $550,000 to charter a purse seiner. Including contingencies for insurance, and the handling and protecting of the net, that appropriation was expended. To date, $230,000 has been paid toward the charter fee and it is assumed that the remaining $320,000 will be used by the time the charter contract ends in early March 1978.

4. Bait Culture and Test Fishing in American Samoa

This is a followup project from last year's PTDF sponsored contract with an expert live-bait fisherman from southern California who performed preliminary fishing experiments using artificially reared mollies for bait. The plan for 1977 involved increasing the rate of production of live mollies to make it feasible for PTDF to charter a U.S. west coast style baitboat to go to American Samoa to test the effectiveness of mollies for catching tuna.

Responsibility for providing an adequate supply of mollies for test fishing rested with the Government of American Samoa. Fish culturists from the mainland and from Hawaii have provided advice and counsel to the Samoans. Through its program manager, PTDF monitored the activities in Samoa to determine whether to go ahead with the project. A final evaluation of the bait situation in American Samoa was completed early in November, and PTDF decided to proceed as planned. As a result, a charter contract to continue for a period of 5 months was signed effective December 1.

This project was budgeted originally for $129,000 to cover the cost of charter, a PTDF observer, and an expert to evaluate the final results. Vessel operating costs and fish prices increased significantly after the annual board meeting; hence, the Executive Committee re-examined the budget for this project. The Committee determined that the vessel charter offer should be increased by $20,000.

5. Live-Bait Transport From California to Hawaii

The PTDF Board funded this project for another year to demonstrate mechanical capability of the specially designed transport tanks built during the previous calendar year. The 1976 report pointed out that this project was closed down by the onset of winter, before test shipment could be made.

The anchovy holding and shipping base at Tiburon, Calif., was reactivated in July after a lengthy delay because of lack of bait. Two holding experiments and simulated shipments were made during August and early September. Finally, on September 30, a load of bait was loaded aboard a roll-on roll-off transport vessel and shipped to

Honolulu. During the first day aboard ship, the anchovies suffered moderate mortality; however, during the following 4 days there was almost no mortality and the surviving bait arrived at its destination in good condition. These anchovies were given to a local skipjack vessel to test their effectiveness as compared to the native bait. The test was not conclusive again, because it was made under very poor fishing conditions. This project was ended with this test shipment, because it was felt that further shipments this late in the year most likely would continue to provide inconclusive results.

PTDF budgeted $30,000 to conclude this project; however, cutting the number of shipments resulted in an expenditure of only $18,000. Because it was necessary for the program manager to provide the services of a technician to help oversee the project, the apparent savings will be adjusted to cover the additional cost to the program managers.

6. Aggregation System for Skipjack Tuna

It is well known that tunas are attracted to natural floating objects such as logs and trees. In the PTDF exploratory fishing area, a great deal of successful fishing takes advantage of this behavior. Natural floating objects occur randomly in the sea and are encountered only by chance, often after long searches. The purpose of this project is to experiment with manmade objects anchored at predetermined locations to see if they can be used extensively to improve fishing

Four potential aggregating devices were built and placed at sea by early May 1977. Of the four objects, three were placed near enough to Honolulu harbor to provide the influence of land and ready access by small trolling craft. The fourth object was placed farther away on a seamount beyond the normal range of small craft.

Observations at the anchored objects have been made frequently since they were set, and it is too early to report positive results. As one might expect, many design and mechanical difficulties have been encountered so far. Most of the objects have broken loose from their moorings at least once, necessitating a search and either repair or replacement. However, this project will last for 2 years, which should allow sufficient time to overcome most of the adversities.

The PTDF Board authorized a total expenditure of $61,000 for the full 2 years. This first year (1977) called for an allocation of $36,000, all of which was used to build and monitor the anchored aggregation devices.

7. Hawaiian Skipjack Aerial Spotting

Traditional Hawaiian skipjack fishermen locate fish schools by sighting bird flocks. The vast search area and the small number of vessels reduce the chances of making these visual sightings. In addition, the design of Hawaiian skipjack vessels and the prospects of

poor bait survival discourage extensive scouting more than 50 miles from Oahu. As a result, zero-catch trips represent nearly 20 percent of the total effort. Vessels will fish up to 150 miles from their home base if there is high probability that adequate skipjack schools are available. Resource assessment-oriented aerial surveys by the State Fish and Game agency in 1975 and 1976 suggested that airplane spotting for tunas might help the fleet. Thus, this project was designed to provide aerial spotting for 1 year to assess cost effectiveness for future industry participation. If the number of zero catch trips could be reduced and if vessels could be directed into more productive areas, the fleet catch could be increased significantly.

Problems encountered in providing matching funds caused a 2-month delay in starting this project; however, it is now underway, but too early to report tangible results.

PTDF allotted $10,000 to support this project for 1 year with a proviso that local industry or the State of Hawaii provide a like amount of support. The Hawaii Legislature made a special appropriation to provide matching funds.

8. Other Projects

The PTDF Board of Directors approved two additional projects at their annual meeting. The first is to assess the economic benefits of tuna transshipment in Guam, and the second is to make a marketing analysis for Hawaiian skipjack. Neither of these projects, whose total PTDF appropriation was $18,000, has been started.

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